

Remarks

Applicants thank the Examiner for her careful consideration of the application.
Claims 1 – 20 are pending in the application.

Claim Rejections - 35 USC § 102

The Examiner rejected claims 12, 14, and 15 under 35 USC § 102(b) as being anticipated by Endo (US Patent No. 6,325,489) ("Endo"). These rejections are moot as Applicants have canceled claims 12, 14, and 15.

Claim Rejections – 35 USC § 103

The Examiner rejected claims 1 and 20 under 35 USC § 103(a) as being unpatentable over Kanda et al (US Patent No. 6,502,921) ("Kanda") in view of Sugitani et al. (US Patent No. 4,905,017) ("Sugitani"). These rejections are respectfully traversed. Applicant respectfully traverses these rejections.

In claim 1, Applicants recite a drop emitting device that includes in relevant part:

a first linear array of side by side substantially mutually parallel first columnar arrays of drop emitting nozzles, the first linear array extending along an X-axis, and the first columnar arrays being oblique to the X-axis;

each first columnar array of drop emitting nozzles comprised of a first linear sub-column of N nozzles that is interleaved with and substantially parallel to an associated second linear sub-column of N nozzles so as to form N first pairs of nozzles, wherein each first pair of nozzles includes a nozzle from the first linear sub-column and an adjacent nozzle from the second linear sub-column, and wherein N is greater than 1;

a second linear array of side by side substantially mutually parallel second columnar arrays of drop emitting nozzles, the second linear array extending along the X-axis and being adjacent the first linear array along a Y-axis that is orthogonal to the X-axis, and the second columnar arrays being oblique to the X-axis; and

each second columnar array of drop emitting nozzles comprised of a third linear sub-column of N nozzles that is interleaved with and substantially parallel to an associated fourth linear sub-column of N nozzles so as to form N second pairs of nozzles, wherein each second pair of nozzles includes a nozzle from the third linear sub-column and an adjacent nozzle from the fourth linear sub-column.

The Rejection to claim 1 should be withdrawn as the Examiner has not established that the prior art discloses all the elements of claim 1. Specifically, the Examiner has not shown that the combination of Kanda and Sugitani discloses a first linear array of side by side substantially mutually parallel first columnar arrays of drop emitting nozzles and a second linear array of side by side substantially mutually parallel second columnar arrays of drop emitting nozzles where each first columnar array includes first and second interleaved subcolumns of N nozzles AND each second columnar array includes third and fourth interleaved subcolumns of N nozzles. The elements of Sugitani identified by the Examiner as corresponding to the third and fourth interleaved subcolumns are not interleaved. As claim 1 recites that both the first and second subcolumns AND the third and fourth subcolumns are interleaved, the Examiner has failed to cite structure to support the assertion that the combination of Kanda and Sugitani includes all the limitations of claim 1.

Further the Examiner has not established that one skilled in the art, having knowledge of both Kanda and Sugitani would combine them unless they were trying to generate Applicants' invention. The Examiner has identified no portion of Kanda or the prior art generally that suggests the interleaving used by Sugitani. The Examiner has also identified no portion of Sugitani or the prior art generally that suggests the use of first and second linear arrays of side by side substantially mutually parallel columnar arrays as used in Kanda.

Therefore, for each of the foregoing reasons claim 1 should be allowed.

In claim 20, Applicants recite a drop emitting device that includes a first linear array of columnar arrays of first nozzle pairs, the first linear array extending along an X-axis and the columnar arrays of first nozzles extending obliquely to the X-axis, and a second linear array of columnar arrays of second nozzle pairs, the second linear array extending along the X-axis and the columnar arrays of second nozzles extending obliquely to the X-axis. The

nozzles of each first nozzle pair are aligned along the X-axis and the nozzles of each second nozzle pair are offset along the X-axis. One nozzle of each first nozzle pair emits drops of a first color and another nozzle of each first nozzle pair emits drops of a second color different from the first color. One nozzle of each second nozzle pair emits drops of a third color and another nozzle of each second nozzle pair emits drops of a fourth color. The first linear array and the second linear array extend along an X-axis, and the second linear array is adjacent the first linear array such that each first nozzle pair has an associated second nozzle pair displaced therefrom along a Y-axis that is orthogonal to the X-axis.

The Rejection to claim 20 should be withdrawn as the Examiner has not established that the prior art discloses all the elements of claim 20. Specifically, the Examiner has not shown that the combination of Kanda and Sugitani discloses first and second linear arrays of, respectively, first and second columnar arrays of first nozzle pairs, the first and second linear arrays extending along an X-axis and the columnar arrays of first and second nozzles extending obliquely to the X-axis, where the nozzles of each first nozzle pair are aligned along the X-axis and the nozzles of each second nozzle pair are offset along the X-axis. The elements of Sugitani identified by the Examiner as corresponding to the first pairs and second pairs of nozzles are presented in the alternative. The embodiment shown in Figure 8 of Sugitani is an alternative to the embodiment shown in Figure 6 of Sugitani. Figure 5 of Kanda only shows two arrangements of jetting units where the units are oblique to an x-axis. The Examiner has not shown a drop emitting device that has a plurality of different nozzle configurations. Therefore, the Examiner has not shown that the combination of Kanda and Sugitani includes all the limitations of claim 20.

Further, the Examiner should withdraw the rejection to claim 20 as the Examiner has not provided a motivation to combine the cited references. The Examiner has not established that one skilled in the art, having knowledge of both Kanda and Sugitani would combine them unless they were trying to generate Applicants' invention. More specifically, the Examiner has identified no portion of Kanda or the prior art generally that suggests the use of multiple nozzle configurations. The Examiner has also identified no portion of

Sugitano or the prior art generally that suggests the use of first and second linear arrays of side by side substantially mutually parallel columnar arrays as used in Kanda.

Therefore, for each of the foregoing reasons claim 20 should be allowed.

The Examiner rejected claims 3 – 11 under 35 USC § 103(a) as being unpatentable over Kanda, in view of Sugitani, as applied to Claim 1 above, and further in view of Usui et al. (U.S. Patent No. 6,033,058) (“Usui”). Applicants respectfully traverse these rejections.

Claims 3 – 11 depend from and include all the limitations of claim 1 and should be allowed if claim 1 is allowed.

The Examiner rejected claim 2 under 35 USC § 103(a) as being unpatentable over Kanda et al (US Patent No. 6,502,921) (“Kanda”) in view of Sugitani, as applied to Claim 1 above, and further in view of Ericksen (US Patent No. 5,079,571) (“Ericksen”). Claim 2 depends from and includes all the limitations of claim 1 and should be allowed if claim 1 is allowed.

The Examiner rejected claim 13 under 35 USC § 103(a) as being unpatentable over Endo in view of Torgerson et al. (US Patent No. 6,523,935) (“Torgerson”). This rejection is moot as Applicants have canceled claim 13.

The Examiner rejected claims 17 – 19 under 35 USC § 103(a) as being unpatentable over Endo in view of Bloomberg (US Patent No. 6,425,653) (“Bloomberg”). These rejections are moot as Applicants have canceled claims 17 - 19.

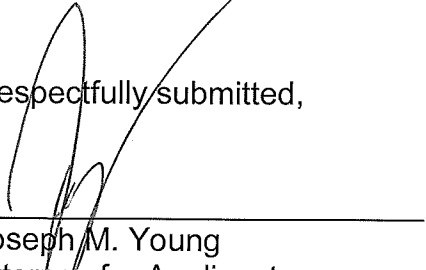
Conclusion

No additional fee is believed to be required for this amendment. However, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025. This also constitutes a request for any needed extension of time and authorization to charge all fees therefor to Xerox Corporation Deposit Account No. 24-0025.

Application No. 10/755,244

A telephone interview is respectfully requested at the number listed below prior to any further Office Action, i.e., if the Examiner has any remaining questions or issues to address after this paper. The undersigned will be happy to discuss any further Examiner-proposed amendments as may be appropriate.

Respectfully submitted,



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JMY/rjh